AMS
Pyott Boone History

Underground environmental monitor systems were developed in the late 70s/early 80s. Pyott Boone's first monitoring system was the Model 950. Pyott Boone engineers incorporated an off the shelf CPU card and other hardware that was available at the time to engineer a Master station which utilized a LED display as part of the HMI. With a 12 key numeric keypad retrieving information and decoding the messages was accomplished with charts attached to the 950. The 950-software program generated alarms and other pertinent information to the operator. There was no PC computer or monitor as such associated with the 950. Pyott Boone arrived late on the scene with the system and targeted the small to medium mine operators since market research indicated the larger operators were going with the Transmitton, Conspec, MSA, Reltek and others. Since Pyott Boone was performing basic CO monitoring and belt control monitoring for small operators we did not opt for high speed data rates. Monitoring distance was somewhat of a concern but did not become an immediate issue. As time moved on and more operators learned of the Pyott Boone system and what Pyott Boone had to offer in service and reliability, expansion into the PC based system and requests for additional monitor capability plus speed came about. This continues today as we meet here. The next generation of the AMS is being engineered and we expect this system to far exceed anything on the market today.

What an AMS system does

AMS monitor the environment for numerous items including oxygen, methane carbon monoxide and airflow . Components which make up the atmospheric monitoring system are the computer , cabling, Uninterruptable Power Supplies, gas monitors and other remotes   Audible/visual alarms are a part of the system.

Gas monitors warn and alarm on gas concentrations of the targeted gases that exceed predetermined levels. These warnings and alarms are displayed at the monitoring station on the surface with appropriate signals for monitoring system personnel to act on. The computer can be configured to activate alarms at locations underground where personnel are stationed.

The most widely monitored target gas is carbon monoxide (CO). CO is odorless, colorless and toxic. It results from incomplete oxidation of carbon in combustion. It can auto ignite at 1,130 degrees F.

What the AMS benefits are

AMS offers a coalmine operator the best safety for personnel and assets. Most CO units are placed along the belt haulage entry for early warning of a potential fire. When installed and maintained to manufacturers requirements the system will report on concentrations considered to be out of the window of normal operation. With the advent of using belt entry air to ventilate the long wall face, worker safety is paramount. Reports of belt alignment problems along with hot rollers and bearings are not uncommon from operators utilizing an AMS. With fewer personnel to monitor and maintain the conveyor belt infrastructure, monitoring for a safe environment is of the utmost importance. Even though the Pyott Boone Belt Boss belt controller is not a gas monitor, it incorporates one of the most advanced digital speed monitoring circuits that is in use in coal industry today. The technology monitors for belt speed slow down, thereby turning off power to conveyor motors long before slippage can become a fire hazard. Conveyor belt fires from slippage should be a thing of the past for operators using this controller.

Since the events of 2006, we have seen an effort by operators to better train personnel in understanding of the AMS and calibration of monitors. We have conducted training for the AMS operator personnel at Pyott Boone, for coal operators here at Pyott Boone. Pyott Boone along with distributor/service centers conducts training classes at mine sites on as needed basis. Pyott Boone also conducts training for the MSHA inspectors in training at the Beckley Mine Academy.